

ITK Pixel Inner System Scope for FY17

- 1) Complete Design Concept with 3D CAD Layout (ANL?, Neal)
 - Spacings for flex cables/connectors, out to PPO, cooling tubes, all layers, everything
 - Quarter-shell interleaving
 - 1.5-2 months of design engineer
 - Start with design concept kick-off meeting ASAP (everyone)
- 2) Mechanical mock-up
 - a. Thermal tests
 - Composite construction of one ring (LBNL)
 - Cooling tubes exist, need to be bent (LBNL or ANL)
 - Testing: Cooling plant? (SLAC, ANL, LBNL)
 - 6-8 weeks
 - b. Connectivity
 - 3D printed version of all the layer flavors (Jimmy?)
 - Mechanical examples of all flexes, connectors, dummy modules, etc. (Mike, Jason, Steven?)
 - Time: procurement lead time 1-2 months?, assembly 1 week

Need significant progress in 3D layout by June 26th, ITK Week

-> Ideally, some thermal tests on rings and some mechanical mock-up for proof-of-principle for spacing

3) Electrical performance

- Design all flexes (Steven?)
- Fabricate flexes (Steven?)
- Purchase twisted pair, twinax, connectors (Mike, Jason, Su Dong?)
- Testing 5 Gbps (Mike, Jason, Steven?)
- Need time estimate
- Need to finish before October for TDR, i.e. September ITK week

4) Thermal Tests (Jimmy)

- L0-L1 coupled ring pipe with heaters
- Confirm TFM with all pipe bends

More meetings! Suggest weekly meetings to communicate designs, progress

- Can we pick a time now?